Marshall Star, February 20, 2013 Edition

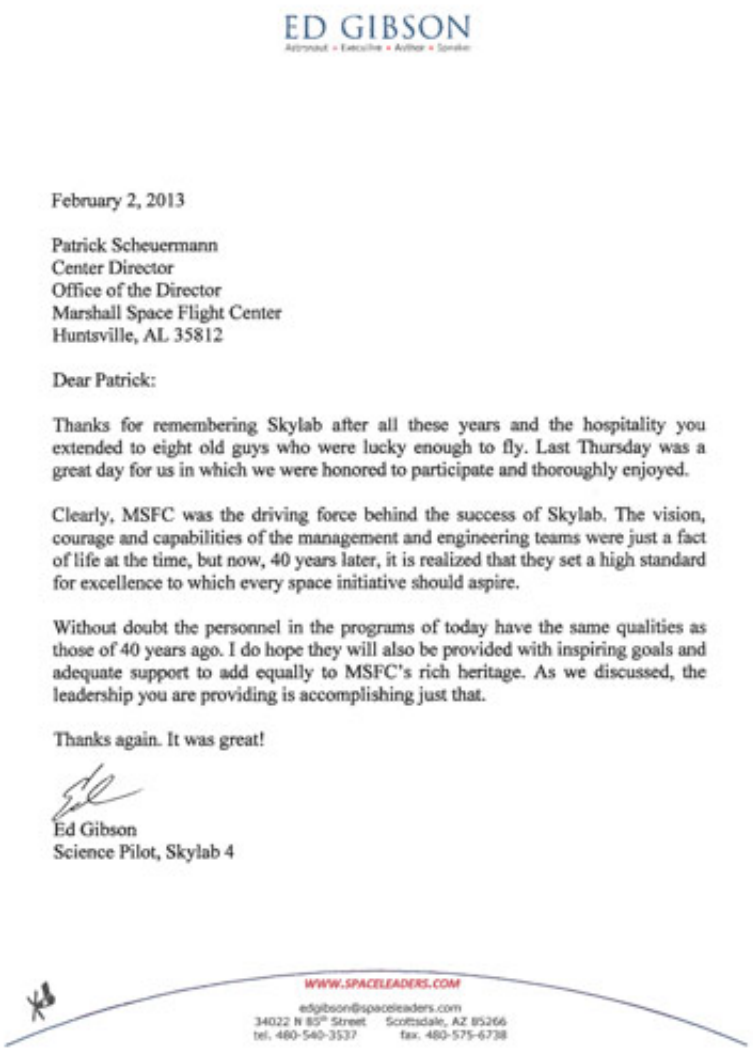
MARSHALL STAR

In This Week's Star

A Letter to the Center Director: ‘Thanks for Remembering Skylab'

"Thanks for remembering Skylab after all these years and the hospitality you extended to eight old guys who were lucky enough to fly," wrote Ed Gibson, who served as the science pilot on board Skylab 4 in 1973. Gibson wrote to NASA's Marshall Space Flight Center Director Patrick Scheuermann, expressing his appreciation for the celebration of the 40th anniversary of Skylab held Jan. 31 at the Marshall Center.

Image right: Letter written by former astronaut Ed Gibson, science pilot on board Skylab 4, to NASA's Marshall Space Flight Center Director Patrick Scheuermann. (NASA/MSFC)



ED GIBSON
Astronaut • Executive • Author • Speaker

February 2, 2013

Patrick Scheuermann
Center Director
Office of the Director
Marshall Space Flight Center
Huntsville, AL 35812

Dear Patrick:

Thanks for remembering Skylab after all these years and the hospitality you extended to eight old guys who were lucky enough to fly. Last Thursday was a great day for us in which we were honored to participate and thoroughly enjoyed.

Clearly, MSFC was the driving force behind the success of Skylab. The vision, courage and capabilities of the management and engineering teams were just a fact of life at the time, but now, 40 years later, it is realized that they set a high standard for excellence to which every space initiative should aspire.

Without doubt the personnel in the programs of today have the same qualities as those of 40 years ago. I do hope they will also be provided with inspiring goals and adequate support to add equally to MSFC's rich heritage. As we discussed, the leadership you are providing is accomplishing just that.

Thanks again. It was great!

Ed Gibson
Science Pilot, Skylab 4

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To commemorate the anniversary, Skylab astronauts Gibson, Paul J. Weitz, William "Bill" R. Pogue, Gerald "Gerry" P. Carr and Joseph "Joe" P. Kerwin told firsthand stories to Marshall team members about their trips to, and days aboard, the space station. NASA launched Skylab on May 14, 1973, but the astronauts recalled working with Marshall Center engineers as early as 1966 on concepts for the orbital laboratory. "Clearly, MSFC was the driving force behind the success of Skylab," wrote Gibson in his letter to Scheuermann.

Skylab astronauts occupied the lab during three crewed missions from 1973 to February 1974. The last Skylab crew set a record by staying in space 84 days. In addition to studying themselves, the crew completed experiments that studied the behavior of materials and used telescopes to study the Earth, sun and stars.

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NASA Set for New Round of J-2X Testing

NASA continued its steady progress toward a return to deep-space missions with the hot-fire test of a new J-2X engine at NASA's Stennis Space Center on Feb. 15. The 35-second test signaled the start of a new round of upcoming tests on the next-generation J-2X rocket engine that will help power the agency's Space Launch System, or SLS. The SLS Program is managed at NASA's Marshall Space Flight Center.

Image left: NASA engineers conduct the first in a new round of tests on the next-generation J-2X rocket engine Feb. 15 at the Stennis Space Center. The 35-second test continued progress in development of the engine that will provide upper-stage power for NASA's new Space Launch System, which will enable missions farther into space than ever. The J-2X engine is the first human-rated liquid oxygen and liquid hydrogen engine developed in the United States in decades. It is being designed and built by NASA and partner Pratt & Whitney Rocketdyne of Canoga Park, Calif. (Image: NASA/SSC)

Engineers will conduct a series of tests on the second J-2X development engine, designated number 10002, on the A-2 Test Stand at Stennis. Once the series is completed, the engine will be transferred to the A-1 Test Stand to undergo a series of gimbal, or pivot, tests for the first time.

"The upcoming test series is not only a critical step forward for NASA and its plan to explore farther into space than ever, but important to the Stennis test team, as well," said Gary Benton, manager of the J-2X test project at Stennis. "As a test team, it is always vital to learn as much about a new engine as possible in order to help ensure its performance in flight," he explained.

"This test series will help us increase our knowledge of the J-2X and its performance capabilities. In addition, the series will help us maintain the high skill level of our team as we look ahead to continued J-2X testing and testing of the RS-25 engines that will be used to power the SLS first-stage."

Because J-2X engine number 10002 has not been tested previously, the first objective of the upcoming series is to verify and demonstrate its capability. Data from the hot-fire tests will be compared to the performance of the first engine, numbered 100001, as well. Engineers also will vary liquid hydrogen and liquid oxygen inlet pressures to see what effect they have on performance.

"Not only will we obtain specific, technical information about engine performance this year, but now that we have two engines, we can compare data and have confidence that our current manufacturing techniques and processes are consistent," said Tom Byrd, J-2X engine lead in the SLS Liquid Engines Office at the Marshall Center. "This engine is the first new liquid-oxygen and liquid-hydrogen engine developed in this country in decades and we'll transfer the knowledge learned on J-2X into the other liquid rocket engines envisioned for SLS."

Another major goal is to subject the engine nozzle to higher temperatures than previous tests to see how it performs under such conditions. Engineers will accomplish this by turning off the diffuser water normally used to cool the nozzle during tests. Two new infrared cameras have been installed on the stand to help monitor the impact of the high temperatures on the nozzle.

NASA already has conducted a number of successful tests on engine number 10001 and on the J-2X powerpack assembly.

An initial round of 10 full-engine tests were deemed very successful, with the J-2X achieving a full flight-duration firing of 500 seconds faster than any other engine in U.S. history.

The engine is being designed and built by NASA and partner Pratt & Whitney Rocketdyne of Canoga Park, Calif., to power the upper stage of the 143-ton version of the SLS rocket.

The new SLS will launch NASA's Orion spacecraft and other payloads from the agency's Kennedy Space Center, providing an entirely new capability for human exploration beyond low Earth orbit.

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NASA Awards Final Space Launch System Advanced Booster Contract
NASA news release

NASA has selected Aerojet of Sacramento, Calif., for a $23.3 million contract to develop engineering demonstrations and risk reduction concepts for future advanced boosters for the agency's Space Launch System, or SLS, which is managed at NASA's Marshall Space Flight Center.

Aerojet is one of four companies contracted under a NASA Research Announcement (NRA) to improve the affordability, reliability and performance of an advanced booster for a future version of the SLS heavy-lift rocket.

The SLS vehicle will take the agency's Orion spacecraft and other payloads farther than ever before. The initial 70-metric-ton configuration will use two, five-segment solid rocket boosters similar to the boosters that helped power the space shuttle to orbit. An evolved 130-metric-ton rocket will require an advanced booster with more thrust than any existing U.S. liquid- or solid-fueled boosters.

Aerojet will work to reduce the risk and improve technical maturation of a liquid oxygen and kerosene oxidizer-rich, staged-combustion engine. The company will fabricate a representative full-scale, 550,000-pound thrust-class main injector and thrust chamber, and conduct a number of tests measuring performance and demonstrating combustion stability.

In addition to Aerojet, three other companies are under contract to develop SLS advanced booster contracts including ATK Launch Systems Inc. of Promontory, Utah; Dynetics Inc. of Huntsville; and Northrop Grumman Corporation Aerospace Systems of Redondo Beach, Calif. These new initiatives will perform and examine advanced booster concepts and hardware demonstrations during an approximate 30-month period.

While commercial partners seek to fly astronauts and payloads to the International Space Station, NASA's SLS, with an uncrewed Orion spacecraft, will begin the first step toward deep space on a flight test in 2017.

NASA's Johnson Space Flight Center manages Orion. SLS will launch from NASA's Kennedy Space Center.

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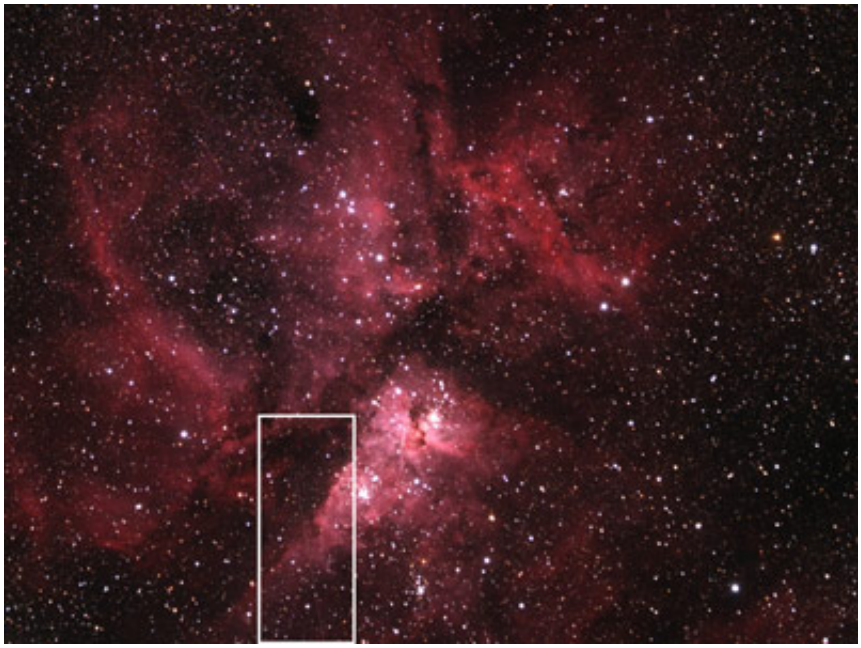
Asteroid 2012 DA14 Passes Close to Earth

Asteroid DA14, passing close to Earth on Feb. 15, was 45 meters in diameter, or about half the size of a football field. This image shows asteroid 2012 DA14 and the Eta Carinae Nebula, with the white box highlighting the asteroid's path. The flyby created a unique opportunity for researchers to observe and learn more about asteroids. The image was taken using a 3-inch refractor equipped with a color CCD camera. The telescope is located at the Siding Spring Observatory in Australia and is maintained and owned by iTelescope.net. (NASA/MSFC/Aaron Kingery)



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John Meredith, Son of Civil Rights Activist, Speaks to Marshall Association Luncheon

John Meredith, son of James Meredith -- the first black student to be enrolled at the University of Mississippi in Oxford, spoke at the Feb. 13 luncheon sponsored by the Marshall Space Flight Center's Office of Diversity & Equal Opportunity and the Marshall Association. His topic was "Growing Up the Son of James Meredith."

Image left: John Meredith, right, presents the book, "A Mission from God: A Memoir and Challenge for America" -- written by his father, civil rights activist James Meredith -- to Marshall Center Deputy Director Teresa Vanhooser, as a gift for the Marshall Center library. Meredith spoke at a luncheon at the Redstone Summit. (NASA/MSFC/Emmett Given)

John Meredith is the founder and president of the Meredith Advocacy Group and a member of the National Leadership Network of Black Conservatives Project 21. His father enrolled at Ole Miss in 1962, and received his degree from the university in 1963.

The Marshall Association seeks to provide an open, creative and stimulating forum for the exchange of ideas and information. Membership is open to all members of the Marshall community. To learn more about the Marshall Association events, activities and membership, visit ExplorNet here.

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Severe Weather Awareness Week Continues through Feb. 22; Emergency Management Officials Encourage Family Emergency Plans

By Megan Davidson

The Huntsville-area and Tennessee Valley community know all too well how fast a storm can turn severe. Over the span of a few hours on April 27, 2011, 39 tornadoes -- some with peak winds around 210 mph -- ripped through Huntsville and surrounding areas. Nearly 100 lives were lost in North Alabama alone, and hundreds more -- including NASA Marshall Space Flight Center team members -- were injured or lost their homes.

To better prepare for natural disasters, like those on that tragic April day, the Marshall Center is teaming with the National Weather Service Office in Huntsville and area emergency management agencies for Alabama's 2013 Severe Weather Awareness Week.

The annual weather preparedness event began Feb. 17, and runs through Feb. 22.

"Severe weather is so common in the Huntsville and Madison County areas, that we may be tempted to not heed the severity of the situation," said Carole Valenti, the Marshall Center's emergency management director. "We usually think of March, April and May as 'tornado season.' But tornadoes can quickly develop all months of the year in the Tennessee Valley. It's important to be prepared at all times."

Valenti encourages Marshall team members to create a family emergency plan and have disaster supply kits -- with items such as food, water, extra batteries and flashlights -- ready and in place at home, in all vehicles and even at your office.

"The Marshall Office of Emergency Management continually monitors weather situations and stays in contact with the National Weather Service to ensure we are aware of potential and actual severe weather that may affect the center," Valenti said. "Not only do employees need to have disaster supply kits, but they also need to listen and take the messages on the center's Emergency Warning System seriously while at work. Those actions may save lives."

Among the activities during Severe Weather Awareness Week, the Marshall Center will hold a tornado drill March 6. More information about the drill can be found on the Marshall Protective Services ExplorNet page.

Marshall team members also can stock up on emergency supplies during the Alabama severe weather preparedness sales tax holiday, from 12:01 a.m. Feb. 22 to midnight Feb. 24. More information, including a list of tax-free items, is available here.

For questions about Alabama Severe Weather Awareness Week, contact Marshall's Emergency Operations Center at 544-3131 or MSFC-EOC@mail.nasa.gov.

Davidson, an Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications.

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Student Teams Bring their 'Robots to Rocket City'

A student team from the Limestone County Career Technical Center in Athens, Ala., showcases its top-notch technology at the "Robots to Rocket City" event Feb. 17. Held at the U.S. Space & Rocket Center in Huntsville, the competition gave more than a dozen student teams from three states an opportunity to test their robots before going to the regional competitions of For Inspiration and Recognition of Science & Technology, or FIRST. FIRST strives to inspire young people to pursue careers in technical fields, through four different competitions that engage students ages 7-18. The educational event was a collaborative effort between NASA's Marshall Space Flight Center, the U.S. Space & Rocket Center and Vicki Smith, Morgan County Schools' K-12 curriculum director. More information about FIRST is available here. (NASA/MSFC/Angela Storey)

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Actress Tonea Stewart to Keynote Black History Month Program Feb. 26

To commemorate Black History Month at NASA's Marshall Space Flight Center, Dr. Tonea Stewart, an actress best known for her role as Aunt Etta on the television series, "In the Heat of the Night," will speak at Marshall's Black History Month observance at 10:30 a.m. Feb. 26 in Building 4200, Morris Auditorium.

Image left: The Voices of Marshall chorus will perform a variety of songs Feb. 26 at the Black History Month observance program. Above, the group also performed at the Festival of Music lunch and learn Feb. 14 in the Building 4203 cafeteria. (NASA/MSFC/Emmett Given)

Stewart is director of theatre arts at Alabama State University in Montgomery. The Voices of Marshall chorus will perform at the program.

The Black History Month events are sponsored by Marshall's Office of Diversity & Equal Opportunity.

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Marshall's Jim Duffy Named the 2012 Large Business Employee of the Year

Jim Duffy, front left, an aerospace engineer at NASA's Marshall Space Flight Center, was recently named the 2012 Large Business Employee of the Year by the Huntsville Area Governor's Committee on Employment of People with Disabilities. In October 2012, he received the Large Business Employee of the Year award at the local level. Duffy, who is in the Structural and Mechanical Design Branch of the Space Systems Department, is the lead mechanical design engineer for sample cartridge assemblies that will house material science experiments to be conducted in the Materials Science Laboratory on the International Space Station. Among those attending the awards ceremony at the Alabama State Capitol are Kim Wanous, back left, director of Communications and Governmental Relations for the Alabama Department of Rehabilitation Services; and members of the Duffy family, including his wife, Bobbie Duffy, back, second from left; and Peggy Anders, back right, director of the Alabama Governor's Committee on Employment of People with Disabilities. (Courtesy photo)

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Marshall Team Encouraged to Take High Risk Conflict Resolution Training to Learn About Workplace Violence

A workplace violence prevention awareness class is now being offered at NASA's Marshall Space Flight Center.

The High Risk Conflict Resolution Training is a four-hour, hands-on seminar in which attendees will learn what to do if faced with a critical incident of violence at work.

The class is designed for all Marshall team members, especially supervisors, managers and human resource specialists. Everyone is encouraged to attend.

"This is a great training opportunity in which all can benefit," said Diana Simpson, Marshall's workplace violence prevention program coordinator in the Protective Services Office. "Participants will examine previous workplace violence incidents, learn the behavior of offenders, and practice verbal and physical tactics to survive a critical incident of violence in the workplace.

"Everyone wants to be safe in their work environment," she added. "The key to preventing a violent situation from occurring is 'Awareness+Action = Prevention.' This seminar will increase the participants' knowledge on what actions to take before and/or during a dangerous event."

Morning or afternoon sessions will be in Building 4627 on March 12, 8 a.m.-noon; March 13, noon-4 p.m.; March 14, noon-4 p.m.; and March 15, 8 a.m.-noon.

The training also includes voluntary physical skill drills and practical exercises to overcome conflicts in the office environment. Participants should wear clothing and footwear suitable for physical activity if one plans to take part in the physical activities.

Team members can sign up for the training through SATERN. For questions, contact Shawn Jayne, captain training coordinator, at 544-1961 or at shawn.d.jayne@nasa.gov.

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Obituaries

Benny F. Graham, 58, of Huntsville died Feb. 8. He retired from the Marshall Center in 2011 as an aerospace engineer.

Ira Payne Jones, 88, of Nashville, Tenn., died Feb. 9. He retired from the Marshall Center in 1989 as an aerospace engineer. He is survived by his wife, Billie Luttrell Jones.

James Braxton Fly, 86, of Huntsville died Feb. 9. He retired from the Marshall Center in 1984 as a supervisory contract specialist.

Bennie Ruth Layne, 81, of Owens Cross Roads died Feb. 11. She retired from the Marshall Center in 1988 as a financial program assistant.

Steve Ernest Tondera, 79, of Huntsville died Feb. 13. He retired from the Marshall Center in 1994 as a data systems engineer. He is survived by his wife, Bonnie Perkins Tondera.

Carl Douglas Gates, 87, of Athens died Feb. 14. He retired from the Marshall Center in 1985 as a construction and maintenance supervisor.

Find this article at:

http://www.nasa.gov/centers/marshall/about/star/index.html